

Section 8 — Hydrogen & the $H = 0$ Ground-State Law

Hydrogen is the anchor of the FUNt mathematical universe. The rule $H = 0$ defines the absolute reference point from which all other particle mathematics, φ^n ladder modes, field behaviors, and coupling thresholds are measured. The hydrogen proton–electron pair constitutes the minimal two-node harmonic system capable of sustaining coherent field behavior in the φ – ψ lattice.

8.1 Hydrogen as the Foundational Atom

- Hydrogen is the simplest stable lattice pair (proton + electron).
- Acts as the φ^0 reference for mass, charge, torsion, buoyancy, and coupling.
- Defines the universal baseline for proton torsion equilibrium.
- Also defines the baseline electron buoyancy state.
- [Insert hydrogen diagram here]

8.2 The $H = 0$ Mathematical Definition

- $H = 0$ states that hydrogen is the zero-point origin for FUNt mathematics.
- Hydrogen is not assigned an arbitrary offset; it is treated as absolute reference.
- All φ -tier transitions (electron and proton) are measured upward from $H = 0$.
- This grounds the φ^n ladder to a true physical system rather than an abstract series.
- [Insert $H = 0$ law diagram here]

8.3 Hydrogen Spectral Geometry

- Hydrogen's spectral lines provide the first empirical φ – ψ harmonic markers.
- Balmer, Lyman, Paschen series follow φ -derived harmonic intervals.
- These intervals underpin photon emission, absorption, and decay timing.
- Hydrogen spectrum is the key to understanding φ^7 photon-mode transitions.
- [Insert spectral geometry diagram here]

8.4 Hydrogen as φ^0 Anchor Across Electron, Proton, Neutron

- Electron φ^0 is the localized ground state in hydrogen.
- Proton φ^0 is the torsional anchor state (mass baseline).
- Neutron φ^0 defines the zero-coherence reference before binding.

- All particle φ -tier physics map back to hydrogen's φ^0 .
- [Insert anchor diagram here]

8.5 Hydrogen Inside the Field Harmonic Matrix

- Hydrogen defines the lowest resonance basin of the FHM.
- Electron-proton coupling sets FHM boundary conditions.
- Hydrogen enables FHM's first stable standing wave node.
- Defines the minimal coherent 'unit cell' of the universal lattice.
- [Insert FHM cell diagram here]

8.6 Hydrogen & ϕ^7 Photon Mode

- Hydrogen is the first system capable of reaching φ^7 photon-like resonance.
- Electron φ^7 = photon-like, Proton φ^7 = decay-coupler state.
- Hydrogen's φ^7 state produces the characteristic Lyman- α coherence peak.
- This φ^7 coupling is the anchor for the universal decay timing law.
- [Insert φ^7 spectral peak diagram here]

8.7 Hydrogen as Universal Calibration Standard

- Hydrogen calibrates proton torsion, electron buoyancy, and neutron spacing.
- Serves as the mass origin, charge origin, and coupling timing origin.
- All FUNt constants are normalized relative to $H = 0$.
- Hydrogen ties together the entire φ -based mathematical system.
- [Insert calibration diagram here]